

## PHOTOLYTIC ARTIFICIAL LUNG

### Abstract

The present invention is directed to a photolytic artificial lung. The photolytic 5 artificial lung converts water to oxygen for blood absorption, regulates pH, the removes carbon dioxide, and co-produces electrical power is disclosed. The photolytic artificial lung includes a photolytic cell where all of the chemical reactions occur. The photolytic cell disclosed herein can also be used to direct 10 chemical reactions in organs other than the lung. Also disclosed herein is a gas sorption device for removing carbon dioxide from the system by chemical sorption.

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